

## **ABSTRACT**

A method of making connections between arrays of optical components such as waveguides, fibers and diode lasers, by linking them with optical waveguides written directly in three-dimensional blocks or wafers of a transparent dielectric material such as glass. If arrays are to be connected, any element can be connected to any other element, providing the flexibility to make cross-connects. In a particular embodiment, femtosecond laser dielectric modification is employed to manufacture the optical connector.